

Occasional Papers On Mollusks

Published by
THE DEPARTMENT OF MOLLUSKS
Museum of Comparative Zoölogy, Harvard University
Cambridge, Massachusetts

VOLUME 1

SEPTEMBER 20, 1947

NUMBER 11

Edward Sylvester Morse **With a Bibliography and a Catalogue of his Species**

By MERRILL E. CHAMPION

It is often remarked that scientific men nowadays tend more and more to become specialists, usually in quite narrow fields. Graduate collegiate degrees are the rule rather than the exception. Edward Morse, however, was not of this pattern. He had no college degree and had to educate himself, yet he became outstanding in the fields of zoölogy, ceramics and ethnology; he even got some reputation in astronomy. Four universities gave him honorary degrees. The brief outline of his career which follows is intended to focus attention on some of the accomplishments of this remarkable man.

Edward Sylvester Morse was born in Portland, Maine, June 18, 1838. His father, Johnathan, a partner in a firm dealing in furs, was a deacon in the church and a rather narrow-minded individual who failed to understand this son whose interest centered in the collection and study of mollusks. His mother, more broad-minded and more perceptive than the father, retained a profound influence over Edward as long as she lived. The boy had also a friend of his own age, John M. Gould, of kindred tastes, who through the many years ahead was a source of friendship, encouragement and even of financial aid. Many of Morse's most self-revealing letters were to this friend.

At the age of twenty Edward began a diary which he kept up all his life. This diary serves as a rich source of information about the writer himself, his way of reacting to life, and the chief events of his career.

Young Morse did not take very kindly to the sort of schooling then provided in his native Maine. He got expelled from the Academy at Bridgton and went to work as a draftsman. Returning to another school—this time at Bethel—he received encouragement to continue his interest in natural science, an interest which dated back to his childhood when he had begun to collect shells at the age of twelve. It was while at school in Bethel that he found a mollusk new to science which he named *Helix asteriscus* and reported to the Boston Society of Natural History. This was in 1856 when he was eighteen years old. Two years later he reported another new mollusk to the Boston Society, which he named, *Helix milium*.

In spite of this early introduction to science, Morse evidently failed to get from his early schooling the elementary knowledge of the humanities which high schools are supposed to impart to their students. He had to learn by experience and contact with the world. He did learn and later in life held his own with the best on three continents. His progress can be gauged by the entries in his diary and by his letters.

Edward Morse's scientific interest in malacology did not go unnoticed. Word got round about his cabinet of shells. Judge Cooper came to look it over. William Stimpson, then at the Smithsonian Institution, also made a visit. Results of great import to the future career of Morse followed. First came an invitation from Stimpson to accompany him on a scientific trip to Mount Desert. This had to be refused because of the certain disapproval of the elder Morse. Then there came a letter from W. G. Binney, at that time an outstanding figure in conchology, inviting the young amateur to correspond.

Not long after these events, and following words with his father, "Ned" Morse went to Boston to take a job as a draftsman. This gave him the opportunity of attending the meetings of the Boston Society of Natural History where he saw Louis Agassiz. However, after a short time, out of money, he had to return to Maine.

Up to this point nothing that had happened seemed to give promise of a permanent career in science. Nevertheless events were in the making which were to change the complexion of things for Edward Morse. A visit from another well-known conchologist was the starting point. In May, 1859, P. P. Car-



*Very truly
Ed. Morse*

1838-1925

Plate 18. From an original photograph

penter, over from England and working at the Smithsonian Institution, called on Morse at Portland to see his shell collection. Not long afterwards a letter came from Carpenter stating that he had told Agassiz of Morse's interest in shells and of his drafting ability. Carpenter went on to say that Agassiz had expressed a wish to see the young conchologist. Morse started for Boston that night. Next day he saw Agassiz, saw the Museum of Comparative Zoölogy with him and was told to return in the fall as a student-assistant at the Museum. This he did on November 1, 1859.

Morse began his Cambridge experiences when he was twenty-one years old. His position was that of student-assistant at the new Agassiz Museum and his salary was \$300 and found. This was to prove an interesting and formative period in Morse's life, both because of the educational opportunities involved and because of personal contacts with Agassiz and with a group of younger men all of whom were to become famous in later life: Verrill, Hyatt, Packard, Shaler, to mention a few. Nevertheless after a time dissatisfaction grew on him. He was not getting all the salary promised him. Agassiz had not paid him anything for the collection of shells he had made in Maine and turned over to the Museum. Then there was the unsettled state of his mind caused by the beginning of the Civil War. Morse wanted to enlist but was being urged not to do so by his mother and his fiancée.

Finally at the end of 1861, after two years at Cambridge, Morse resolved to quit the Museum and go back to Maine in the hope of making a living as a draftsman and lecturer. He made a start at this, doing work for Binney, Bland, Prime and others. Nonetheless the urge to have a share in the Civil War was still with him and led him to enlist on August 25, 1862. Rejected on the physical examination, he went to work for the Portland Cement Company at nine dollars a week. Within a year he married Elizabeth Owen to whom he had long been engaged.

In 1864, one of the disappointments which had been at the bottom of Morse's leaving Cambridge was removed: Agassiz paid him \$250 for the shells given the Museum in 1860. In March of this same year appeared Morse's first long article "Observations on the Terrestrial Pulmonifera of Maine, In-

cluding a Catalogue of all the Species of Terrestrial and Fluviatile Mollusca known to Inhabit the State." Morse did the illustrations himself. This scientific effort brought him appreciation and praise from such men as William Stimpson of the Smithsonian Institution and Isaac Lea, but very little financial return.

During this period, Morse did a good deal of lecturing at which he was quite successful. He was a ready speaker and was able to enliven his talks by blackboard illustrations, using both hands at once.

Back in Portland, Morse continued his interest in malacology. He was made Curator of the Portland Society of Natural History. However, the fire that ravaged Portland in 1866 destroyed the rooms occupied by the Natural History Society. Morse and others saved some of the contents but the job of Curator lapsed for lack of money.

In spite of this setback, the year 1866 saw Edward Morse started on a permanent career. He went to Salem, Massachusetts to make some drawings for a work by Hyatt and Salem became his home for the rest of his life.

In November of this year 1866 Morse and three of his friends, A. S. Packard Jr., Alpheus Hyatt and Frederick W. Putnam, joined in starting a scientific magazine which was given the name of the *American Naturalist*. This publication lasted until 1878. Those interested in Morse's early contributions to malacology have occasion to refer often to the issues of the *American Naturalist*. In fact the leading article in the first number of the new magazine, which is dated March, 1867, was by Morse on the shells of New England.

A large gift of money by the famous philanthropist George Peabody made possible the establishment of the Peabody Academy of Science in 1867 at Salem, Massachusetts. Edward Morse and some of his former companions at the Museum of Comparative Zoölogy became members of the staff, Frederick W. Putnam being named Director. Morse himself served as a curator from 1868 to 1871; as Director from 1880 to 1914; and as Director emeritus from 1914 until his death in 1925.

In 1871 Morse separated himself — temporarily as it turned out — from the Peabody Academy in order to travel throughout the United States giving popular lectures on science. At

the same time research was not neglected, and he lectured on zoölogy at Bowdoin, Maine State and Harvard. This period of the seventies was one of great activity and accomplishment and included academic recognition of his scientific attainments. In 1871 Bowdoin College gave him the degree of Doctor of Philosophy. In 1873 Agassiz invited him to lecture at his Summer School of Science at Pennikese Island in Buzzards Bay, Massachusetts. In 1876 he became vice-president (and in 1886, president) of the American Association for the Advancement of Science. In 1877, Morse turned down an invitation to build up a department of science at Princeton.

Dr. Walter B. Cannon in one of his essays discusses that form of indirection to which the term "serendipity" has been applied. He quotes Horace Walpole regarding the Three Princes of Serendip: "As their highnesses travelled, they were always making discoveries by *accident* or *sagacity*, of things which they were not in quest of." In 1877 Edward Morse gave us a beautiful example of serendipity: he went to Japan to study brachiopods and returned a world authority on Japanese pottery. It came about in this way.

For years Morse had been interested in the brachiopoda which, up to his time, had been classified with the mollusca. Painstaking investigation, however, starting with early fossil forms, convinced him that the brachiopods belong with the worms instead of the mollusks. This represents an outstanding piece of research and was recognized as such throughout the world, drawing a letter of praise from Charles Darwin. Incidentally, the labors that enabled him to write his essay "The Brachiopoda, A Division of Annelida" (1870) resulted in his becoming a convinced Darwinian, thus separating him from the teachings of his old master, Agassiz.

It was these same brachiopods that took Morse to Japan in 1877. Arrived there, he soon made such an impression on the Japanese authorities that they invited him to organize a department of zoölogy at the newly-established Imperial University of Tokyo and to set up a museum of natural history. Morse agreed to sign a two-year contract. Thus, without knowing it, he took the first step on a road that was to lead to fame in an entirely new field of endeavor.

The lucky accident which initiated this—as given in Dorothy

Wayman's highly interesting and complete biography of Morse—happened as follows. Morse was having some trouble with indigestion in 1878. His Tokyo physician prescribed a five-mile daily walk and a hobby to make the tramp more interesting. The hobby was found by chance. During one of his rambles he came upon a saucer in the form of a shell. This led to a search for similar pieces of pottery. Then his Japanese friends undertook to improve his taste in this field of art and he took lessons from the greatest living Japanese expert. On the death of this expert, Morse became *the* expert himself. Ultimately he became consultant on Japanese pottery to the British Museum, the Royal Museum in Dresden, the Freer Art Gallery and the Boston Museum of Fine Arts. Thus it would seem that Morse as a serendipitist outdid the Princes of Serendip themselves.

One other incident must be mentioned before taking leave of Morse's Japanese experiences. Soon after his arrival in Japan, while travelling by train to Tokyo, he caught sight of some shells on the railroad embankment near the village of Omori. These were fossil *Arca granosa* which Morse considered to be part of a prehistoric kitchen midden. This glimpse into Japanese archaeology formed the basis of a paper on the Shell Mounds of Omori and played its part in determining Morse's relationship to Japan. It is interesting to note that this paper was the first publication of the University of Tokyo.

Late in 1879 Morse returned with his family to Salem, refusing to renew his contract at the Imperial University. Apparently he had become a bit homesick and besides he wanted to finish his research on brachiopods and to do some lecturing and writing. The year following his departure from Japan he was offered and accepted the directorship of the Peabody Museum in Salem—a position which he retained until his death.

In spite of his many activities at home, Morse again felt an urge to visit Japan if only for a short time. This he did in 1883, returning by way of China, France and England.

Pre-eminence in two widely-separated fields of research would seem to most men enough for one lifetime. But not so Edward Morse. While in Japan he became interested in the methods of arrow release of various races. From then on he spent many years in investigation of this field of ethnology.

To him, the progress of civilization was reflected in five types of arrow release. The results of his studies were embodied in a bulletin of the Essex Institute entitled *Ancient and Modern Methods of Arrow-Release* (1885) and a later publication, *Additional Notes on Arrow-Release* (1922).

While president of the American Association for the Advancement of Science, Morse went to England in 1887 as a delegate to a meeting of the corresponding British association. After taking part in their proceedings, he travelled for a while on the Continent, visiting museums in Norway, Denmark, Sweden, Germany and Switzerland and conferring with men interested in his own diversified fields. Again in 1888 he visited Europe, this time as a delegate to the Congress of Americanists in Berlin. His last visit was in 1889 to perfect his collection of pottery.

The remainder of Edward Morse's long life—some thirty-five years—was spent in his native country with Salem, Massachusetts as his home base. His amazing diversity of interests continually led him into new projects and new studies. Not content with being a specialist in zoölogy, Japanese pottery and ethnology, he took up the study of astronomy with Percival Lowell at the Harvard Observatory. He even wrote a book called *Mars and its Mysteries* (1906) which won commendation from at least some of those qualified to judge.

More significant, however, than his excursion into astronomy was the publication of his *Catalogue of Japanese Pottery* (1891)—considered to be unique in its field—and of his journal entitled *Japan Day by Day* (1917). The journal—in two volumes—not only is a mine of information about Japan but throws much light on Morse himself.

For the twenty-year period between 1881 and 1901, Morse published little in the field of zoölogy; then in 1901 appeared his *Observations on Living Brachiopoda*. Other papers followed dealing with various molluscan species. These continued until the end of his life. His last published paper (in 1925) dealt with *Shell Mounds and Changes in the Shells Composing Them*.

On December 20, 1925, Edward S. Morse died at his home in Salem at the age of 87.

Edward Morse's many-faceted nature and surprisingly varied attainments make it hard to get an adequate picture of

him. Those in search of "success stories" can find ample material in his life. To quote Dorothy Wayman once more: "Edward Morse, without esthetic culture, without wealth, without a fully conceived purpose accomplished through his enthusiasm and appreciation the building of an artistic heritage for all humanity." His scientific curiosity led him into various fields of research. Zoölogy, however, was his lifelong interest.

Morse did not describe many mollusks. His taxonomic researches produced one variety, eleven new species, one subgenus, eight genera, and one subfamily. He certainly did not belong to the race of "splitters" who grasp at every chance to create new genera, species or subspecies even if it means merely adding to the synonymy. He quoted with approval Professor Keith's protest against the newer terminology: "Cursed be he that removeth his neighbor's landmarks: and all the people shall say, Amen" (Deuteronomy xxvii: 17). Old and established names, he thought, ought to be let alone and what Morse thought he phrased in vigorous language.

As a zoölogist, Morse was a careful observer, a good draftsman and an indefatigable collector. He wrote well and was notably successful as a lecturer. In fact it may be said that in all of his varied activities he showed originality, boundless energy and enthusiasm, and catholicity of interests. He was an individual who did things, who questioned where others only accepted and who left behind him solid and permanent accomplishments; he was a distinguished scientist and a dynamic personality.

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ACKNOWLEDGMENTS

The data on which this account of Morse's life is based come largely from Dorothy G. Wayman's highly interesting and complete biography. Her account has been accepted as the accurate one where disagreement has been encountered among those who have written about Morse.

I am indebted to Mr. L. R. Jenkins, Director of the Peabody

Museum in Salem, Massachusetts for interesting information about his predecessor, Edward Morse and for the opportunity of looking over material pertaining to Morse.

Finally, I wish to acknowledge with thanks the assistance of William J. Clench, especially in the matter of decisions regarding types.

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*A List of Recent Mollusks described by Edward S. Morse
with the original references and type localities.*

The initials PBSNH refer to the Proceedings of the Boston Society of Natural History; JPSNH to the Journal of the Portland Society of Natural History; ALNHNY to the Annals of the Lyceum of Natural History of New York; ARPAS to the Annual Report of the Peabody Academy of Science; and MCZ to the Museum of Comparative Zoölogy.

The Museum of Comparative Zoölogy has the original Morse Collection. It has also the shells of the Peabody Museum of Salem and types from the New England (formerly Boston) Society of Natural History, with both of which institutions Morse was connected for much of his life. Nevertheless it has been impossible to trace certain of the Morse types.

Anguispira: 1864, JPSNH **1**, no. 1, p. 11, new genus.

asteriscus, Helix: 1857, PBSNH **6**, p. 128 (Bethel, Maine) [Lectotype here selected MCZ 17480].

binneyana, Hyalina: 1864, JPSNH **1**, p. 13, 61; figs. 25-26; pl. 2, fig. 9; pl. 6, fig. 27 (southern Maine: type locality here restricted to Gorham, Maine) [Lectotype here selected (label marked "author's type") MCZ 11734].

blandii, Pupilla: 1865, ALNHNY **8**, p. 211, fig. 8 (Drift on the Missouri River, near Fort Berthold [No. Dakota]). [Lectotype here selected (label marked "figured specimen") MCZ 13110]. [see, *Pupa blandi* W. G. Binney; U.S. Explorations in Nebraska. Ex. Doc. 35th Congress, 2nd Session, Vol. 2, part. 2, 725 (1859) nude name].

- bollesiana**, *Isthmia*: 1865, ALNHNY **8**, p. 209, figs. 4-6 (Orono, Maine). [Lectotype here selected (from Peabody Museum, label marked "sp. nov." MCZ 161427)].
- borealis**, *Ancylus*: 1864, JPSNH **1**, p. 45, figs. 103-104 (Patten, Maine) [Type cannot be located].
- corpulenta**, *Isthmia*: 1865, ALNHNY **8**, p. 210, fig. 7 (Little Valley, Washoe Co., Nevada) [Lectotype here selected MCZ 161426].
- ferrea**, *Striatura*: 1864, JPSNH **1**, p. 17, figs. 36-39; pl. 2, fig. 10; pl. 7, fig. 40 (Maine; type locality here restricted to Gorham Maine) [Lectotype here selected (label marked "type" and "author's type") MCZ 12007].
- Helicodiscus**: 1864, JPSNH **1**, no. 1, p. 5, new genus.
- miliun**, *Helix*: 1859, PBSNH **7**, p. 28, not figured (Mt. Independence, Westbrook, Maine). [In the Bland Collection at the Museum of Comparative Zoölogy there is a specimen from Morse (MCZ 12029), with the author's label, according to Bland, and marked "author's type" with the locality given as Gorham, Maine. Morse himself, however, in his original description of this mollusk, under "distribution" mentions five Maine localities, none of which is Gorham. Furthermore he says "This little shell I found at Mt. Independence, Westbrook, Me." Westbrook is one of the towns mentioned under "distribution." The Morse Collection in the Museum of Comparative Zoölogy does not contain this type nor can it be found among the Peabody Museum or the Boston Society of Natural History shells].
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- nylanderi**, *Pyramidula rupestris* var.: 1920, Nautilus **34**, pp. 58-59, 3 figs. (Riley, Maine). [Two specimens only, found by Morse. These cannot be located].
- ovalis**, *Ancylus*: 1864, JPSNH **1**, p. 44, figs. 101-102 (Androscoggin River at Bethel, Maine) [Type not located].
- Pallifera**: 1864, JPSNH **1**, no. 1, p. 8, new genus.
- Planogyra**: 1864, JPSNH **1**, no. 1, p. 24, new subgenus.
- Pseudohyalina**: 1864, JPSNH **1**, no. 1, p. 15, new genus.
- Punctinae**: 1864, JPSNH **1**, no. 1, p. 27, new subfamily.
- Punctum**: 1864, JPSNH **1**, no. 1, p. 27, new genus.
- Striatura**: 1864, JPSNH **1**, no. 1, p. 17, new genus.
- Strobila**: 1864, JPSNH **1**, no. 1, p. 26, new genus.
- ventricosa**, *Isthmia*: 1865, ALNHNY **8**, p. 207, figs. 1-3 (throughout Maine; type locality here restricted to Westbrook, Maine) [Lectotype here selected (from Peabody Museum label marked "nov. sp.," Westbrook, Me.) MCZ 161429].
- Zoogenetes**: 1864, JPSNH **1**, no. 1, p. 32, new genus.